LIST OF CURRENT CLAIMS

1. (Currently Amended) Configurable large-area display system including a display ~~(114)~~ comprising a plurality of sub-displays that each contain an array of pixels ~~(122)~~, said system further comprising a central controller hardware and software block ~~(110)~~ containing software to control the display system ~~(100)~~ and to generate control data and video signals to be displayed on the display ~~(114)~~; a digitizer ~~(112)~~ that converts said control data and video signals to a digital signal compatible with the display ~~(114)~~; wherein the digitized control data and video signals are passed from one sub-display to the next, and wherein each sub-display is a control unit ~~(116)~~ capable of controlling the individual pixels ~~(122)~~ of said control unit ~~(116)~~ as a function of its position within the display ~~(114)~~ and of the received control data and video signals.

2. (Currently Amended) Configurable large-area display system according to claim 1, wherein said central controller hardware and software block ~~(110)~~ is electrically connected to digitizer ~~(112)~~ via a standard RS-232 connection ~~(111)~~.

3. (Currently Amended) Configurable large-area display system according to claim 1, wherein the digitizer ~~(112)~~ is connected to the display ~~(114)~~ by means of a fiber link ~~(113)~~.

4. (Currently Amended) Configurable large-area display system according to claim 1, wherein, in the event that the distance between two successive control units ~~(116)~~ exceeds a predetermined distance, an intermediate resyncer ~~(118)~~ is used between said two control units ~~(116)~~ to receive and retransmit the control data and video signals.

5. (Currently Amended) Configurable large-area display system according to claim 1, wherein each control unit ~~(116)~~ further includes an AC-to-DC power supply ~~(210)~~, a resynchronizer unit ~~(212)~~ to receive and transmit data, an EEPROM ~~(224)~~, and a controller ~~(216)~~ driving a plurality of pixel clusters ~~(218)~~ that each includes a plurality of modules ~~(220)~~, each containing an array of light-emitting pixel elements ~~(222)~~.

6. (Currently Amended) Configurable large-area display system according to claim 5, wherein the EEPROM ~~(224)~~ contains production data and factory light output measurements, as well as color coordinates for each pixel ~~(222)~~ within modules ~~(220)~~.

7. (Currently Amended) Configurable large-area display system according to claim 5, wherein the controller ~~(216)~~ contains algorithms to parse the control data and video signals received into specific packets associated with the location of a given module ~~(220)~~ within the concerned control unit ~~(116)~~ of display system ~~(100)~~.

8. (Currently Amended) Configurable large-area display system according to claim 5, wherein the controller ~~(216)~~ is provided with means for managing the pulse width modulation associated with driving pixels ~~(222)~~ of each module ~~(220)~~.

9. (Currently Amended) Configurable large-area display system according to claim 5, wherein the control unit comprises four pixel clusters ~~(218)~~, each pixel cluster ~~(218)~~ containing 32 modules ~~(220)~~ that are suitably interconnected for a daisy-chain signal distribution.

10. (Currently Amended) Configurable large-area display system according to claim 5, wherein each module ~~(220)~~ comprises an array of 2 x 2 pixels ~~(222)~~.

11. (Currently Amended) Configurable large-area display system according to claim 1, wherein the pixels ~~(222)~~ are light-emitting diodes (LED).

12. (Currently Amended) Configurable large-area display system according to claim 1, wherein the dimensions of the modules ~~(220)~~ are relatively small, such that they can be assembled to form displays having any 2D or 3D shape.

13. (Currently Amended) Configurable large-area display system according to claim 1, wherein the modules ~~(220)~~ of the display ~~(114)~~ are arranged in a standalone manner so that the display ~~(114)~~ apparently has a transparent ~~structures~~ structure.

14. (Currently Amended) Control unit for use in a configurable large-area display system according to claim 1, said control unit ~~according to any of the preceding claims, characterized in that it is~~ configured as a sub-display comprising a plurality of pixel clusters ~~(218)~~, each comprising a plurality of pixel modules ~~(220)~~ that are sequentially interconnected with each other and each containing an array of light-emitting pixel elements ~~(122)~~.

15. (Currently Amended) Control unit according to claim 14, including an AC-to-DC power supply ~~(210)~~, a resynchronizer unit ~~(212)~~ arranged to receive and transmit control data and video signals; a controller ~~(216)~~ connected to the resynchronizer unit ~~(221)~~ and driving the pixels ~~(222)~~ contained in the modules ~~(220)~~ and clusters ~~(218)~~; and an EEPROM ~~(224)~~ connected to the controller ~~(216)~~.

16. (Currently Amended) Control unit according to claim 15, wherein the EEPROM ~~(224)~~ contains production data and factory light output measurements, as well as color coordinates for each pixel ~~(222)~~ within modules ~~(220)~~.

17. (Currently Amended) Control unit according to claim 15, wherein the controller ~~(216)~~ contains algorithms to parse the control data and video signals received into specific packets associated with the location of a given module ~~(220)~~ within the concerned control unit ~~(116)~~ of display system ~~(100)~~.

18. (Currently Amended) Control unit according to claim 14, wherein the controller ~~(216)~~ is provided with means for managing the pulse width modulation associated with driving pixels ~~(222)~~ of each module ~~(220)~~.

19. (Currently Amended) Control unit according to claim 14, wherein the pixels ~~(222)~~ are light-emitting diodes (LED).

20. (Currently Amended) Method of operating a large-area display system made in accordance with claim 1, comprising the steps of applying power to the display ~~(114)~~; determining whether the display ~~(114)~~ is to be configured or reconfigured; determining the hardware configuration; setting the desired spacing of the ~~picture elements~~ pixels ~~(222)~~; reading ~~the~~ an EEPROM ~~(224)~~ for obtaining stored production data and factory light output measurements, as well as color coordinates for each pixel ~~(222)~~ within modules ~~(220)~~; transmitting and distributing video signals and control data to the display; parsing the video data, and transmitting the video data stream to the pixel clusters ~~(218)~~.

21. (Currently Amended) Method of operating according to claim 20, wherein, depending on the desired spacing, some intermediate pixels ~~(222)~~, which are spaced apart less further then desired, are ignored for use.